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(54) TEST STRIPS FOR DETECTING THE PRESENCE OF A REDUCED COFACTOR IN A SAMPLE AND METHOD FOR USING THE SAME

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(56) References Cited

U.S. PATENT DOCUMENTS

3,964,974 A * 6/1976 Banauch et al. 435/14

FOREIGN PATENT DOCUMENTS

EP	0 908 453 A1	4/1997
WO	WO 94/01544	7/1993
WO	WO 94/01578	7/1993

* cited by examiner

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(57) ABSTRACT

Test strips and methods for their use in the detection of an analyte in a sample are provided. The subject test strips are characterized by at least including a water soluble tetrazolium salt on a surface of a positively charged substrate. In many embodiments, the water soluble tetrazolium salt is present as part of an analyte oxidizing signal producing system, which system includes one or more of the following additional components: an analyte oxidizing enzyme, e.g., an analyte dehydrogenase or an analyte oxidase; an electron transfer agent; and an enzyme cofactor. Also provided are systems and kits incorporating the subject test strips. The subject test strips, systems and kits find use in the measurement of a wide variety of analytes in a sample, such as a physiological sample, e.g., blood or a fraction thereof.

25 Claims, 1 Drawing Sheet

